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Soil Conservation

SOIL CONSERVATION SERVICE • U. S. DEPARTMENT OF AGRICULTURE

VOL. XXVIII, NO. 4 NOVEMBER 1962

Growth Through Agricultural Progress

Soil Conservation 25 Years Ago

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CONTENTS

PAGE

75 The Businessman and Conservation
By Walter B. Garver

77 Soil Surveys Save Money for City of the Alamo
By Herbert I. Jones

79 Field Number Signs Solve Management Problem By Mail
By Stanley Yusk

80 Bankers Score in Kansas Grassland Management
By H. Ray Brown

81 City Kids Have Big Weekend on Oregon Farms
By Louis Gilliam and Arthur W. Emerson

83 Businessmen Sponsor Annual SCD Day
By Don Tootell

84 Farm Equipment Industry Invests in Conservation
By W. J. Klein

86 Business Conservation Awards
By Curtis Loucks, Carl H. Zimmerman, and Guy Moorefield

88 Watershed Project Saves Cedar City Dollars
By Leland H. Carlson

89 Nonfarmers Size Up Conservation
By William H. Atkinson

91 Tailor Made Clothing and Conservation
By Gordon J. Price

92 Conservation Drains End "Town's" Digging Bees
By Edward G. Konieczny

93 D. C. Metropolitan Small-Watershed Project

94 Agriculture and Business

95 Michigan City and Farm Interests Join Hands
By Ralph W. Lowery

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FRANK B. HARPER, Editor

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The Businessman And Conservation

By Walter B. Garver

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THE Nation's business community has been one of the stanchest supporters of the countrywide soil and water conservation movement from its beginning. This recognition of a practical approach to sound management of these basic resources has not been based on any superficial altruistic premise. It was just good business—and still is!

Chambers of Commerce over the country, in common with service clubs and other businessmen's organizations, have taken advantage of opportunities to further soundly conceived local and State conservation programs that are in the public interest; and the National Chamber likewise has lent its weight to the advancement of such programs.

Among such opportunities has been that of encouraging the organization of soil and water conservation districts by landowners under State enabling laws, and supporting their work of rural community improvement. Special awards to outstanding conservation district farmers, sponsored by Chambers of Commerce, Junior Chambers of Commerce, and other business groups, and by banking and other business interests, have been an incentive to continued effective working relationships between farm producers and customers and business and professional people in town. So have conservation advertising and publicity provided by many Chambers of Commerce and member businesses.

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The Chamber of Commerce—to mention one other example—was one of the approximately 100 organizations, businesses, and agencies to cooperate with Kiwanis International in sponsorship in 1955 of the first Farm-City Week, being observed this year November 16 to 22. Because soil and water conservation has come to be recognized as such an important link between town and country, cooperation on conservation unquestionably has helped measurably in making this observance a permanent and yearly more helpful institution.

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Note:—The author is manager, Agriculture and Natural Resources Department, Chamber of Commerce of the United States, Washington, D. C.

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big machinery and other industries, utilities, and others—have sought to help bona fide soil and water conservation; because there is no generalization that otherwise would describe how businessmen think of soil conservation. Like others, their views depend largely on their grasp and knowledge of soil behavior and problems, some of which necessarily are quite technical. The way businessmen look at it depends, also, on the impact of programs on their short-run and long-run profit and survival problems. This includes their specific stake in the business of servicing and supplying the conservation requirements of farmers and programs, and their general stake in farm income and the business derived from it.

Businessmen necessarily look at resources, especially land and soil, as a source of wealth (food, fiber, minerals, petroleum, etc.). As such, the standard by which they judge resources is their potential or actual usefulness to man. Economic contributions are the criteria, which means that "string savers" and hobbyists are by no means necessarily conservationists.

Many businessmen look upon conservation as a working "bank." Increasingly in today's world they are forced to look at the long-term use of resources and capital. They are generally, therefore, adverse to short-run "mining," and look more to the long-run maximizing of wealth and income, rather than to quick profits and returns just for today, or this year.

Many businessmen who are fully involved with soil conservation—and they are many over the country—are disturbed by the lack of public understanding of the true meaning of conservation, and of the necessity for sound programs in the public interest of all citizens, living and unborn. This lack unfortunately includes that on the part of some businessmen.

Some of the hurdles soil conservation has had to overleap have been imposed by well-intentioned "friends" of soil and water conservation who seem to have mistaken "soil conversation" for soil conservation. Businessmen also share with others a suspicion that some devotees are overzealous, with their own extreme biases and blind spots.

Businessmen also recognize that there are some things which farmers "ought" to do as stewards but cannot or do not do, and that there are others that farmers ought not to be expected to do. In these cases, businessmen generally accept the need for programs to accomplish what is clearly in the public interest. The critical question is "Who benefits—the recipient, or society?"

The soil today is increasingly a workshop in which soil amendments and plant nutrients, water, capital, labor, and management are combined, much like a fabricating plant, rather than a "mine" to be worked bare. There are many businessmen who have a direct stake in this "factory" process, and their views can be expected to reflect this relationship.

Soil conservation is inseparably related to water management. Sound management of soils, therefore, has two important aspects in this connection: (1) The prevention of erosion and loss of physical properties; and (2) as an instrument in the management of water, in which business and industry have a direct and vital concern.

Businessmen have seen in their own communities the improvement in farming and farm wealth, as well as the wealth of the community, as soil conservation methods and practices have transformed the agriculture and switched the enterprises of the areas. This has resulted not only in a better and more economically sound agriculture, but a more hopeful picture of the future and a greater long-run stability in both the physical resources and the income derived from them.

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ate profit regardless of consequences.

Businessmen make a distinction between conservation to preserve from *change*—and to preserve from *destruction*. We are today on the threshold of a new evaluation of soil, land, and water arising from changes in our economy, culture, and society. Conservation to preserve against change can be as negative and harmful as no conservation at all, especially if changing needs dictate policies that are destructive of *some* values, standards, and uses that must yield in an adaptation of resources to new needs and necessities.

SOIL SURVEYS SAVE MONEY

For City of the Alamo

By Herbert I. Jones

(Note: Bexar (pronounced "bear") County and San Antonio, Tex., for a number of years have set an example in farm-city conservation teamwork by sharing the costs of watershed and special soil surveys, and in other ways. The significance of their out-of-the-ordinary efforts to speed up flood prevention and land and property protection strikes home to the editor, because he was carried out of a water-filled apartment on the bank of the suddenly flood-swollen San Antonio River at 3 o'clock one morning back in 1913, and spent until the next afternoon in his rescuers' firehouse.—Ed.)

SAN ANTONIO is perhaps unique among American cities for its interest in the soil and time and time again that interest has proved to be good business for citizens and taxpayers of Texas' third largest city.

A recent case in point is the location of lateral gasline connections on a new 75-mile main encircling the city. San Antonio's utility engineers planned them for areas where soil survey information indicated there would be the least difficulty from underlying rock. The city's public service men also are using soils information to spot protection for all steel pipes, in an effort to curb corrosion losses estimated at more than $50,000 a year.

Soils information from the same survey also is being used in the city's newest park, in planning and construction of buildings, parking lots, play grounds, and planted areas.

William R. Hunter, San Antonio's special projects engineer, has been using the soil maps and information to schedule jobs and earthmoving equipment for a year now—ever since the city agreed to share the cost of an intensive city-suburban soil survey. He said that "savings on special projects alone are double what it cost the city to enter into the cooperative soils agreement we signed with the Soil Conservation Service."

Spokesmen for other divisions of the citizen-owned public utilities, the Public Works Department, and the Planning Commission value the survey equally highly.

San Antonio officials receive soil survey field sheets and descriptive materials from (l. to r.) Frank B. Taylor, SCS survey party leader, and Mike Stout, assistant State soil scientist; Special Projects Engineer William S. Hunter; Ben Petitt of the Water Board; and Charles A. Tipps, Public Service Board corrosion expert.

Note:—The author is field information specialist, Soil Conservation Service, Denver, Colo.

San Antonio Director of Planning Steve Taylor (l.) and Assistant City Manager Jerry Henkel use SCS survey field sheets to check soils on proposed site developments.

Historic San Antonio of Alamo fame is bursting at all seams with new developments and renewal projects, with urban fringe areas having turned metropolitan almost overnight. All require earth to be moved. Trenches must be dug, streets cut, foundations set, utility lines placed, and recreation sites developed. The kind of soil encountered makes a difference in cost, or determines whether the work can be done at all.

"We've been running into soil problems for years," Geologist Ben Petitt of the city's Water Board commented during a pause on one of the latest trenching jobs, where he was checking earth conditions along a line aimed at a booming subdivision. "Corrosion, rock, and sand have been particularly vexing. While we always made intensive tests at construction sites, no one ever tried to make a systematic inventory of soils in the entire area. Most of the time we were face to face with problems before we knew what they were."

City Manager Jack Shelley added: "When we learned the SCS was doing soil surveys in Bexar County for agricultural purposes, we were interested. It looked to us like a lot of the information would be good for our planning—if the survey could include city and suburban land."

At Hunter's request, the Soil Conservation Service analyzed the city's needs and found that the soil texture, slope, and depth measurements made on farms and ranches would be useful, but that the city needed to know more.

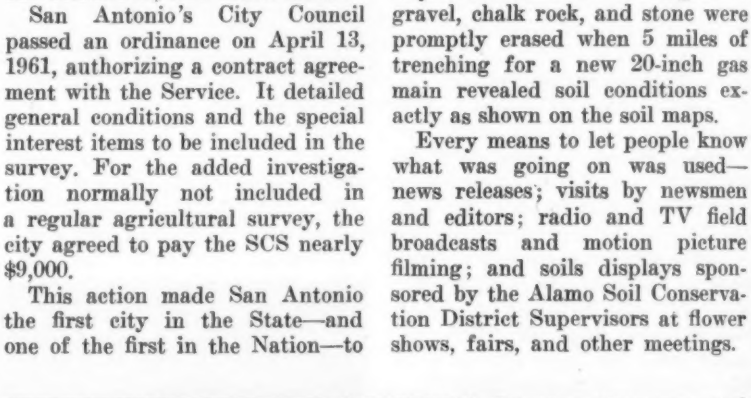
"Soil character and depth to underlying rock, or at least down to 10 feet, was vital," SCS Work Unit Conservationist Don Windrow recalled. "Resistivity to the conduct of electrical charge, corrosion factors, unusual slope characteristics, and some very special soil descriptions would also be needed if the soil survey was to be useful for zoning, urban planning, tax evaluation, and construction."

San Antonio's City Council passed an ordinance on April 13, 1961, authorizing a contract agreement with the Service. It detailed general conditions and the special interest items to be included in the survey. For the added investigation normally not included in a regular agricultural survey, the city agreed to pay the SCS nearly $9,000.

This action made San Antonio the first city in the State—and one of the first in the Nation—to undertake an intensive soil survey of its urban land. Mapping of the 280 square miles covered by the agreement also was approved by the Texas Agricultural Experiment Station, cooperating in the soil survey.

Though the area in the city-suburban survey represents but a small portion of the 800,000 acres under study in Bexar County, it is the area of most intensive use, where changes are rapid and where mistakes could be costly. Realizing this fact, the SCS sent in three soils men. Any doubts skeptics may have had about the accuracy of their mapping of the city soils and the underground gravel, chalk rock, and stone were promptly erased when 5 miles of trenching for a new 20-inch gas main revealed soil conditions exactly as shown on the soil maps.

Every means to let people know what was going on was used—news releases; visits by newsmen and editors; radio and TV field broadcasts and motion picture filming; and soils displays sponsored by the Alamo Soil Conservation District Supervisors at flower shows, fairs, and other meetings.



William S. Hunter (r.), San Antonio's special projects engineer, with SCS Work Unit Conservationist Don Windrow and Soil Scientist Frank Taylor, discussing conservation planning and application in the rurban areas and on Bexar County farms and ranches.

Although the soil surveyors didn't actually cut across private yards to make their survey, they did get as close to buildings as was practicable. They tested in vacant lots, and ran lines in unpaved alleyways, across golf courses, parks, and military installations, and along highway and railroad rights-of-way. They looked in foundation and footing cuts on housing and industrial sites. They mapped and tested in the busiest streets wherever the utility men cut the pavement. Physical analysis of selected soil samples was made in city laboratories and by the Texas Highway Department.

The official Bexar County report is not yet published, but San Antonio officials are correlating information from copies of the field sheets with existing city data, utility installation, and urban renewal plans and maps. City Manager Jack Shelley summed up the city's feeling about the soil survey and the information it provided:

"San Antonio, like every other American city that we know of, has grown fast. Expansion came so quickly there often wasn't time for adequate study of many of the ramifications of the development. But today—thanks in part to the soil survey—we are catching up. No official, department, bureau, or agency in San Antonio is now proposing construction without using the cooperative soil survey as one of their basic tools. The cost of the survey represents a mere fraction of the values already obtained. And we haven't even begun to use the information."

San Antonio's satisfaction with its soil survey has focused attention on the broader aspects of conservation—on watershed protection and flood prevention, among others in the offing. Recently, the city has seen the Salado Creek watershed project planned and approved. This plan very well may bring to parts of the city a measure of protection never thought possible not so many years ago.

Red clover in field 1.

Field 4 prepared for alfalfa planting.

Field Number Signs Solve Problem of Conservation Management By Mail

By Stanley Yusk

OSCAR BORCHERT of Michigan has to supervise management of his 600-acre beef-cattle farm in Tennessee mostly by correspondence with his tenant 500 miles away. Until he hit upon a novel means of helping him to carry out his soil and water conservation plan, developed with help of the Dickson County Soil District 2 years ago, he met with considerable, though understandable, confusion in his long-distance management-by-mail.

Because present-day farming demands close contact with the actual farming operations, city owner Borchert soon realized that management by correspondence has its drawbacks. For instance, a few fences were built in the wrong places, and several fields were sown to the wrong plants—all because, Borchert concluded, "the man on the farm was uncertain as to what fields were referred to."

During the development of his conservation farm plan a land-use map was made by the Soil Conservation Service. The map divided the farm into 25 fields for conservation planning and treatment purposes. After studying this map, Borchert wondered why the same field numbers shown on it couldn't also be posted in the fields themselves to identify them.

"This would simplify my management problem," Borchert reasoned, " as well as help my farm operator in applying the soil conservation plan."

After a lengthy search, Borchert located some large white enamel signs numbered from 1 to 25, which he promptly bought and shipped to Farm Operator Odie Bailey. Now, when Borchert writes a letter from Detroit directing, say, the seeding of field 4 on his farm in Tennessee to alfalfa, he knows Bailey will not be uncertain as to his instructions, and that the right field will be sown to the right crop.

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Mutual understanding between the farmer and the city man is vital to prosperity throughout our land.

Note:—The author is work unit conservationist, Soil Conservation Service, Dickson, Tenn.

Bankers Score in
Kansas Grassland Management

By H. Ray Brown

PRESIDENT C. R. Hubbard of the Guaranty State Bank of Beloit is convinced that banking and grassland management have a lot in common in north central Kansas. In other words, the successful rancher lives off the interest instead of the principal, and maintains his grassland in a condition that it returns perpetual dividends.

It was in 1954 that Hubbard concluded it was as important for farmers and ranchers to understand the principles of range management as thoroughly as to know the principles of livestock management. Furthermore, one-third of Mitchell County, the area served by the bank, is native grassland.

Hubbard relates that, as a commercial bank, its officers felt they should have a program which would focus attention on the seriousness of grass exploitation, proper management as being economically important to both the rancher and the bank, and the need to stabilize livestock programs so they would weather periodic droughts. The goal was to develop a grass consciousness among people of the area.

Hubbard relayed his ideas to Dean D. Haddock, vice-president and farm representative of the bank, for working out some type of range-management program. Haddock contacted range-management specialists of the agricultural colleges, experiment stations, Extension Service, and the Soil Conservation Service for ideas.

By using the information received, rules and a scorecard for the Mitchell County Range Improvement Program were formulated. The program contest, open to all, is sponsored by the bank, with cooperation of the Extension Service, the SCS, and the Mitchell County Soil Conservation District. The bank awards a $100 savings bond to the first-place winner, a $50 savings bond for second place, and a $25 savings bond for the third place.

Hubbard presents $100 savings bond to 1st.-place winer.

The range is rated at the beginning and end of the season, in May and October. Scoring is based on trend of range condition, stocking rates within safe carrying capacity of the pasture, as based on degree of use, extent to which temporary or tame pastures are used, total months pasture of all types; placement of fences, watering places, and salt for better distribution of grazing; and handling equipment such as fences, pens, and feeding facilities. A committee selects four farms for the final contest.

During the May inspection, the judges consult with the farmer on the phases of his range-management program that appear weak, suggesting recommendations for improvement. The score at the end of the season is based on percentage points showing plus or minus changes. The contestant showing

DeWitt Abbott and Floyd Kensinger (l. to r.) explain proper range use to contestants on Joe Pruitt farm in Mitchell County.

Note:—The author is range conservationist, Soil Conservation Service, Hays, Kans.

the greatest seasonal improvement between inspections or, in dry years, the least seasonal decrease, is the winner.

Awards are presented on a public field day held during the fall evaluation.

Bankers and civic groups of Lincoln and Cloud counties are sponsoring a similar type program as a result of the Mitchell County contest.

City Kids Have Big Weekend On Oregon Conservation Farms

By Louis Gilliam and Arthur W. Emerson

THE laughter of city school girls and boys—mingled with the hundreds of farm sounds of roaring tractors, the hoof poundings of saddle horses, mooing of cattle, barking of dogs, noises of chickens and trucks, and other farm noises—heralded the end of the first glamour day for 35 Portland 8th graders and their chaperons.

Nineteen boys and 16 girls were chosen last spring by teachers and principals of the Portland, Oreg., elementary schools to spend 3 drama-filled days on eastern Oregon farms and ranches—135 miles up the Columbia River.

In that weekend, they saw calf-branding, quarter horse colts at close range, combines and tillage equipment, stripcropping, and grassed waterways. They visited Rock Creek School, one of the last remaining one-room country school houses in Oregon, worshipped on Sunday with their hosts in small community churches, and by that night were back home in the city—tired, thrilled, still a little mystified at what farm life is, and completely won over by the charm and hospitality of Oregon's Columbia Basin farm families.

Note:—The authors are, respectively, work unit conservationist, Condon, Oreg., and field information specialist, Berkeley, Calif., both of the Soil Conservation Service.

The tour was sponsored by the Gilliam County Soil Conservation District, the Oregon State University Extension Service, the Soil Conservation Service, the Portland Chamber of Commerce agricultural committee, Portland public schools, the Gilliam County public schools, 4-H officials, Gilliam County Wheat Growers Association, county granges, and the Gilliam County Farm Bureau.

Eighth-grader Carol Greiner of Gilliam County's one-room Mayville School greets Portland 8th Grader Eileen Harrington at start of weekend stay at James Greiner ranch home.

One objective was a new type of educational-appreciation tour of rural life and conservation farming for city youngsters—so they could learn and report "back home" to their families and school associates.

The Gilliam County organizational group for several years had developed soil and water conservation tours for local grade schools with excellent results. Meanwhile, Portland business firms had sponsored events to inform rural youth about the "big city." To the organizational group's knowledge, this type of "show me trip" for city school children had not previously been attempted. Here could be a tremendous opportunity for better understanding between the agricultural producer and the consumer of his goods.

This weekend adventure provided young people from city and farm a tailor-made opportunity to become acquainted and develop better understanding between urban and rural youth—showing how agricultural programs and conservation activities help all citizens as well as farmers and ranchers.

The expense-free trip by Gilliam County's Arlington School activities bus, with food and lodging furnished by host farm families, who took one to three students into their homes for Friday and Saturday nights, included meals and soft drinks furnished by local service clubs, the Arlington school cafeteria, and the host families.

One of the boys was overheard to

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For City of the Alamo

By Herbert I. Jones

(Note: Bexar (pronounced "bear") County and San Antonio, Tex., for a number of years have set an example in farm-city conservation teamwork by sharing the costs of watershed and special soil surveys, and in other ways. The significance of their out-of-the-ordinary efforts to speed up flood prevention and land and property protection strikes home to the editor, because he was carried out of a water-filled apartment on the bank of the suddenly flood-swollen San Antonio River at 3 o'clock one morning back in 1913, and spent until the next afternoon in his rescuers' firehouse.—Ed.)

SAN ANTONIO is perhaps unique among American cities for its interest in the soil and time and time again that interest has proved to be good business for citizens and taxpayers of Texas' third largest city.

A recent case in point is the location of lateral gasline connections on a new 75-mile main encircling the city. San Antonio's utility engineers planned them for areas where soil survey information indicated there would be the least difficulty from underlying rock. The city's public service men also are using soils information to spot protection for all steel pipes, in an effort to curb corrosion losses estimated at more than $50,000 a year.

Soils information from the same survey also is being used in the city's newest park, in planning and construction of buildings, parking lots, play grounds, and planted areas.

William R. Hunter, San Antonio's special projects engineer, has been using the soil maps and information to schedule jobs and earthmoving equipment for a year now—ever since the city agreed to share the cost of an intensive city-suburban soil survey. He said that "savings on special projects alone are double what it cost the city to enter into the cooperative soils agreement we signed with the Soil Conservation Service."

Spokesmen for other divisions of the citizen-owned public utilities, the Public Works Department, and the Planning Commission value the survey equally highly.

San Antonio officials receive soil survey field sheets and descriptive materials from (l. to r.) Frank B. Taylor, SCS survey party leader, and Mike Stout, assistant State soil scientist; Special Projects Engineer William S. Hunter; Ben Petitt of the Water Board; and Charles A. Tipps, Public Service Board corrosion expert.

Note:—The author is field information specialist, Soil Conservation Service, Denver, Colo.

San Antonio Director of Planning Steve Taylor (l.) and Assistant City Manager Jerry Henkel use SCS survey field sheets to check soils on proposed site developments.

Historic San Antonio of Alamo fame is bursting at all seams with new developments and renewal projects, with urban fringe areas having turned metropolitan almost overnight. All require earth to be moved. Trenches must be dug, streets cut, foundations set, utility lines placed, and recreation sites developed. The kind of soil encountered makes a difference in cost, or determines whether the work can be done at all.

"We've been running into soil problems for years," Geologist Ben Petitt of the city's Water Board commented during a pause on one of the latest trenching jobs, where he was checking earth conditions along a line aimed at a booming subdivision. "Corrosion, rock, and sand have been particularly vexing. While we always made intensive tests at construction sites, no one ever tried to make a systematic inventory of soils in the entire area. Most of the time we were face to face with problems before we knew what they were."

City Manager Jack Shelley added: "When we learned the SCS was doing soil surveys in Bexar County for agricultural purposes, we were interested. It looked to us like a lot of the information would be good for our planning—if the survey could include city and suburban land."

At Hunter's request, the Soil Conservation Service analyzed the city's needs and found that the soil texture, slope, and depth measurements made on farms and ranches would be useful, but that the city needed to know more.

"Soil character and depth to underlying rock, or at least down to 10 feet, was vital," SCS Work Unit Conservationist Don Windrow recalled. "Resistivity to the conduct of electrical charge, corrosion factors, unusual slope characteristics, and some very special soil descriptions would also be needed if the soil survey was to be useful for zoning, urban planning, tax evaluation, and construction."

San Antonio's City Council passed an ordinance on April 13, 1961, authorizing a contract agreement with the Service. It detailed general conditions and the special interest items to be included in the survey. For the added investigation normally not included in a regular agricultural survey, the city agreed to pay the SCS nearly $9,000.

This action made San Antonio the first city in the State—and one of the first in the Nation—to undertake an intensive soil survey of its urban land. Mapping of the 280 square miles covered by the agreement also was approved by the Texas Agricultural Experiment Station, cooperating in the soil survey.

Though the area in the city-suburban survey represents but a small portion of the 800,000 acres under study in Bexar County, it is the area of most intensive use, where changes are rapid and where mistakes could be costly. Realizing this fact, the SCS sent in three soils men. Any doubts skeptics may have had about the accuracy of their mapping of the city soils and the underground gravel, chalk rock, and stone were promptly erased when 5 miles of trenching for a new 20-inch gas main revealed soil conditions exactly as shown on the soil maps.

Every means to let people know what was going on was used—news releases; visits by newsmen and editors; radio and TV field broadcasts and motion picture filming; and soils displays sponsored by the Alamo Soil Conservation District Supervisors at flower shows, fairs, and other meetings.

William S. Hunter (r.), San Antonio's special projects engineer, with SCS Work Unit Conservationist Don Windrow and Soil Scientist Frank Taylor, discussing conservation planning and application in the rurban areas and on Bexar County farms and ranches.

Although the soil surveyors didn't actually cut across private yards to make their survey, they did get as close to buildings as was practicable. They tested in vacant lots, and ran lines in unpaved alleyways, across golf courses, parks, and military installations, and along highway and railroad rights-of-way. They looked in foundation and footing cuts on housing and industrial sites. They mapped and tested in the busiest streets wherever the utility men cut the pavement. Physical analysis of selected soil samples was made in city laboratories and by the Texas Highway Department.

The official Bexar County report is not yet published, but San Antonio officials are correlating information from copies of the field sheets with existing city data, utility installation, and urban renewal plans and maps. City Manager Jack Shelley summed up the city's feeling about the soil survey and the information it provided:

"San Antonio, like every other American city that we know of, has grown fast. Expansion came so quickly there often wasn't time for adequate study of many of the ramifications of the development. But today—thanks in part to the soil survey—we are catching up. No official, department, bureau, or agency in San Antonio is now proposing construction without using the cooperative soil survey as one of their basic tools. The cost of the survey represents a mere fraction of the values already obtained. And we haven't even begun to use the information."

San Antonio's satisfaction with its soil survey has focused attention on the broader aspects of conservation—on watershed protection and flood prevention, among others in the offing. Recently, the city has seen the Salado Creek watershed project planned and approved. This plan very well may bring to parts of the city a measure of protection never thought possible not so many years ago.

Red clover in field 1.

Field 4 prepared for alfalfa planting.

Field Number Signs Solve Problem of Conservation Management By Mail

By Stanley Yusk

OSCAR BORCHERT of Michigan has to supervise management of his 600-acre beef-cattle farm in Tennessee mostly by correspondence with his tenant 500 miles away. Until he hit upon a novel means of helping him to carry out his soil and water conservation plan, developed with help of the Dickson County Soil District 2 years ago, he met with considerable, though understandable, confusion in his long-distance management-by-mail.

Because present-day farming demands close contact with the actual farming operations, city owner Borchert soon realized that management by correspondence has its drawbacks. For instance, a few fences were built in the wrong places, and several fields were sown to the wrong plants—all because, Borchert concluded, "the man on the farm was uncertain as to what fields were referred to."

During the development of his conservation farm plan a land-use map was made by the Soil Conservation Service. The map divided the farm into 25 fields for conservation planning and treatment purposes. After studying this map, Borchert wondered why the same field numbers shown on it couldn't also be posted in the fields themselves to identify them.

"This would simplify my management problem," Borchert reasoned, " as well as help my farm operator in applying the soil conservation plan."

After a lengthy search, Borchert located some large white enamel signs numbered from 1 to 25, which he promptly bought and shipped to Farm Operator Odie Bailey. Now, when Borchert writes a letter from Detroit directing, say, the seeding of field 4 on his farm in Tennessee to alfalfa, he knows Bailey will not be uncertain as to his instructions, and that the right field will be sown to the right crop.

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Mutual understanding between the farmer and the city man is vital to prosperity throughout our land.

Note:—The author is work unit conservationist, Soil Conservation Service, Dickson, Tenn.

Bankers Score in
Kansas Grassland Management

By H. Ray Brown

PRESIDENT C. R. Hubbard of the Guaranty State Bank of Beloit is convinced that banking and grassland management have a lot in common in north central Kansas. In other words, the successful rancher lives off the interest instead of the principal, and maintains his grassland in a condition that it returns perpetual dividends.

It was in 1954 that Hubbard concluded it was as important for farmers and ranchers to understand the principles of range management as thoroughly as to know the principles of livestock management. Furthermore, one-third of Mitchell County, the area served by the bank, is native grassland.

Hubbard relates that, as a commercial bank, its officers felt they should have a program which would focus attention on the seriousness of grass exploitation, proper management as being economically important to both the rancher and the bank, and the need to stabilize livestock programs so they would weather periodic droughts. The goal was to develop a grass consciousness among people of the area.

Hubbard relayed his ideas to Dean D. Haddock, vice-president and farm representative of the bank, for working out some type of range-management program. Haddock contacted range-management specialists of the agricultural colleges, experiment stations, Extension Service, and the Soil Conservation Service for ideas.

By using the information received, rules and a scorecard for the Mitchell County Range Improvement Program were formulated. The program contest, open to all, is sponsored by the bank, with cooperation of the Extension Service, the SCS, and the Mitchell County Soil Conservation District. The bank awards a $100 savings bond to the first-place winner, a $50 savings bond for second place, and a $25 savings bond for the third place.

Hubbard presents $100 savings bond to 1st.-place winer.

The range is rated at the beginning and end of the season, in May and October. Scoring is based on trend of range condition, stocking rates within safe carrying capacity of the pasture, as based on degree of use, extent to which temporary or tame pastures are used, total months pasture of all types; placement of fences, watering places, and salt for better distribution of grazing; and handling equipment such as fences, pens, and feeding facilities. A committee selects four farms for the final contest.

During the May inspection, the judges consult with the farmer on the phases of his range-management program that appear weak, suggesting recommendations for improvement. The score at the end of the season is based on percentage points showing plus or minus changes. The contestant showing

DeWitt Abbott and Floyd Kensinger (l. to r.) explain proper range use to contestants on Joe Pruitt farm in Mitchell County.

Note:—The author is range conservationist, Soil Conservation Service, Hays, Kans.

the greatest seasonal improvement between inspections or, in dry years, the least seasonal decrease, is the winner.

Awards are presented on a public field day held during the fall evaluation.

Bankers and civic groups of Lincoln and Cloud counties are sponsoring a similar type program as a result of the Mitchell County contest.

City Kids Have Big Weekend On Oregon Conservation Farms

By Louis Gilliam and Arthur W. Emerson

THE laughter of city school girls and boys—mingled with the hundreds of farm sounds of roaring tractors, the hoof poundings of saddle horses, mooing of cattle, barking of dogs, noises of chickens and trucks, and other farm noises—heralded the end of the first glamour day for 35 Portland 8th graders and their chaperons.

Nineteen boys and 16 girls were chosen last spring by teachers and principals of the Portland, Oreg., elementary schools to spend 3 drama-filled days on eastern Oregon farms and ranches—135 miles up the Columbia River.

In that weekend, they saw calf-branding, quarter horse colts at close range, combines and tillage equipment, stripcropping, and grassed waterways. They visited Rock Creek School, one of the last remaining one-room country school houses in Oregon, worshipped on Sunday with their hosts in small community churches, and by that night were back home in the city—tired, thrilled, still a little mystified at what farm life is, and completely won over by the charm and hospitality of Oregon's Columbia Basin farm families.

Note:—The authors are, respectively, work unit conservationist, Condon, Oreg., and field information specialist, Berkeley, Calif., both of the Soil Conservation Service.

The tour was sponsored by the Gilliam County Soil Conservation District, the Oregon State University Extension Service, the Soil Conservation Service, the Portland Chamber of Commerce agricultural committee, Portland public schools, the Gilliam County public schools, 4-H officials, Gilliam County Wheat Growers Association, county granges, and the Gilliam County Farm Bureau.

Eighth-grader Carol Greiner of Gilliam County's one-room Mayville School greets Portland 8th Grader Eileen Harrington at start of weekend stay at James Greiner ranch home.

One objective was a new type of educational-appreciation tour of rural life and conservation farming for city youngsters—so they could learn and report "back home" to their families and school associates.

The Gilliam County organizational group for several years had developed soil and water conservation tours for local grade schools with excellent results. Meanwhile, Portland business firms had sponsored events to inform rural youth about the "big city." To the organizational group's knowledge, this type of "show me trip" for city school children had not previously been attempted. Here could be a tremendous opportunity for better understanding between the agricultural producer and the consumer of his goods.

This weekend adventure provided young people from city and farm a tailor-made opportunity to become acquainted and develop better understanding between urban and rural youth—showing how agricultural programs and conservation activities help all citizens as well as farmers and ranchers.

The expense-free trip by Gilliam County's Arlington School activities bus, with food and lodging furnished by host farm families, who took one to three students into their homes for Friday and Saturday nights, included meals and soft drinks furnished by local service clubs, the Arlington school cafeteria, and the host families.

One of the boys was overheard to

Wayne Monahan shows off father's herd bull to city visitors, who also saw calves and conservation pasture unit.

say to a new friend: "You guys in Gilliam County are sure hospitable."

After showing of a film on wheat farming in the Columbia Basin, 14-year-old Portland student Henry Breithaupt commented: "Gee, I didn't realize there are so many women driving wheat trucks at harvest time."

After lunch Friday, the city visitors saw an old Oregon Trail marker, visited several farms and ranches, and saw stripcropping, erosion control dams, cross wind seeding, stubble mulch fallow, a seed nursery, and conservation practices on Rock Creek, with short, snappy explanations of each by Soil Conservation Service technicians. Then they were off to their hosts' homes, each of which had at least one youngster of the same age and sex as the guests. There, at first hand, they helped feed poultry and livestock, explored farm buildings, and got acquainted before bedtime.

Saturday morning, the city visitors saw an irrigation deep well, crested wheatgrass seed plantings, fence rows sprayed with weedkilling chemicals, annual-cropping experiments, new variety wheat, and aerial weedkilling spray dropped from an airplane. They inspected farm equipment, a shop and fire station, a farm elevator for handling and storing wheat and barley, and stripcropping and grassed waterways. The farm host youngsters went along on the tours and added their personal explanation of many new experiences for the visitors.

After a rest and lunch at the County Fair building in Condon, the visitors took in a demonstration of 4-H steers and how to prepare them for "fair showing;" saw a sagebrush eradication demonstration and annual-cropping experiments; and, by midafternoon, were again off to their hosts' homes for hot baths, and a bounteous Saturday night's farm home dinner, followed by parties during the evening.

On Sunday, all of the city girls and boys went to church with their hosts, after which they enjoyed lunches furnished by their hosts or at a church smorgasboard.

Sunday afternoon the city youngsters boarded their bus for the trip back home at 12:45 o'clock —happy, tired, but thrilled; while back to their homes went the numerous farm family folks who had made this great day possible—not only for their own children at home —but also for their city neighbors.

So successful was this school kids' farm-city get-together that plans already are beginning to form for another such weekend next year.

"Bullseye" contour stripcropping on Bill Jaeger farm near Condon seen by Portland 8th graders.

Businessmen Sponsor *Annual SCD Day*

By Don Tootell

EACH year with the first hint of fall Chairman Frank Schatz of the Lewis and Clark Soil Conservation District in Montana brings the subject up and presently plans for another District Conservation Day are under way.

Those attending the annual event are guests of Lewis and Clark County businessmen, who help with planning the program and making arrangements. The bill for the February 1962 Conservation Day was $531.41. Twenty-seven firms paid it.

That program began with a turkey dinner. The audience heard a discussion of weed control in Montana, "traveled" on a colored slide tour with Cascade County Agent Ted Fosse through historical and agricultural Egypt, and stood by while ballots for the annual election of soil conservation district supervisors were counted.

With a businessman, Joe Hamm, serving as master of ceremonies, each sponsor stood for a moment in the spotlight while the audience applauded. Supervisor Paul Kleffner reviewed the soil conservation district's activities. Others on the board—Schatz, Myrlin Donaldson, Frank Thompson, and Roland Mosher—also took a bow.

Why do these businessmen take part in such an activity? Let one of them, Carl Schiller, tell it:

"We think this is one of the best ways we can help out in getting soil conservation done," he said. "We all have a chance to help now and then. But we must understand the problem and its solution before our efforts can be of any real value. One important result is that we here in town get to know our rural neighbors better. We can be a lot of help to each other."

Is the help from the businessmen important to the soil conservation district Board?

Chairman Schatz put it this way:

"We'd find it hard to get along without the help from our friends on Main Street. They are quick to put a shoulder to any worthwhile project. There's our newsletter, a very handy communications tool. They help with that. Then, most businessmen own land or have friends who do. That makes a real difference in getting our kind of job done. Yes, we count on the businessmen heavily in our district. They have proved themselves our teammates time and again."

Note:—The author is work unit conservationist, Soil Conservation Service, Helena, Mont.

Businessmen and supervisors plan Lewis and Clark SCD "Conservation Day."

Part of crowd at 8th annual Conservation Day in Helena, Mont., at which 27 businessmen were hosts.

Insurance Company Sponsors SCD Report Contest

The Androscoggin Mutual Fire Insurance Co. is sponsor of the Maine Soil Conservation District 1962 Annual Report Contest.

Judges for the competition, closing March 15, 1963, will be from the Lewiston Daily Sun and Evening Journal editorial staff.

Contest instructions specify that "your report, in addition to being a 'Report to the Stockholders,' should be a newsy report to the public so that they will know what your district is, what it is doing, and what it is trying to do."

Presentation of the winning trophy will be at the summer meeting of the State Association of Soil Conservation Districts in 1963.

Farm Equipment Industry In Furthering Soil a

By W. J. Klein

William J. Klein.

"DEAD" acres do not pay for farm equipment.

So it seems almost self-evident that the farm equipment industry has had and will continue to have a deep and abiding interest in soil and water conservation activities; for the financial welfare of the farmer depends upon the productivity of his soil, which can be achieved only by intelligent land and water management. The farm equipment industry is interested in conservation because it knows conservation pays. Farmers who use their land well are customers not only for the machinery of the kind the industry sells, but are customers for everything that is purchased.

For many years, consequently, the hundreds of companies in the farm equipment industry have worked with the Soil Conservation Service of the U.S. Department of Agriculture in promoting the objectives of soil and water conservation to the best of their abilities and opportunities. As a matter of fact, hundreds of thousands of dollars are being invested each year by these companies in advertising, publications, brochures, radio programs, magazine articles, film strips, movies, and literature of many kinds supporting soil and water conservation programs.

For example, movies have been produced: (1) Explaining how farmers and ranchers organize soil conservation districts and showing the results of good conservation practices; (2) highlighting the Mule Creek Pilot Watershed Protection Project in Mills County, Iowa; and (3) pointing out the opportunities for earthmoving contractors in the growing small-watershed protection and flood prevention movement, with scenes from the Upper Hocking Watershed project in Ohio.

Among other farm equipment manufacturers' activities, nine watershed models have traveled thousands of miles to hundreds of displays throughout the country during the past 4 years. These models, which portray a small watershed fully improved by a Public Law 566 project, have been used as educational displays for local soil conservation district meetings, State and county fairs, organizational meetings of small-watershed associations, watershed congresses, television programs, dealers, and many other groups interested in conservation.

In the area of literature, the efforts of individual farm equipment manufacturers have been especially effective. Sample titles include "Making Paydirt Last," "Soil and Water Conservation Pays Dividends," "Stop Your Floods Before They Start," "New Opportunity in Soil and Water Conservation," and "The Soil Conservation Story."

Of course, farmers would never have achieved the present level of soil conservation unless the farm equipment industry had, in turn, concentrated on developing machines particularly adapted to the requirements of conservation farming. The need to meet these requirements, both in adaption of old equipment and also in development of new equipment, has been an ever-present guide for the design engineer.

One of the first major developments occurred when the moldboard plow took on a new look, which involved benefits for conservation. The moldboards were designed to do an improved job of cutting and rolling the soil more efficiently from the furrow onto the terrace ridge.

Perhaps one of the most significant developments in equipment, which permitted more effective conservation practices, was hydraulic lifting power for tractors.

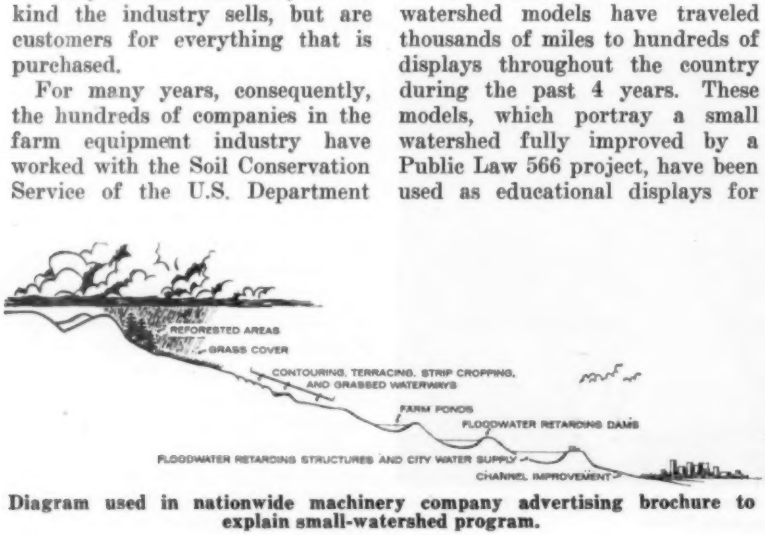


Diagram used in nationwide machinery company advertising brochure to explain small-watershed program.

Note:—The author is chairman of the soil and water conservation committee of the Farm Equipment Institute, and director of the marketing services and public relations division and a vice-president of the Allis-Chalmers Manufacturing Co., Milwaukee, Wis.

...try Invests Heavily In ...Soil and Water Conservation

Ranch foreman examines special combination of blue panicum and buffelgrass that in a few months after root plowing and rangeland seeding replaced eroded, brush-infested land on Briscoe ranch.

For example, farmers now find it an easy matter, by means of simple controls, to lift a plow or disk in order to protect grassed waterways and other areas to be kept in vegetation.

Another innovation in equipment was the appearance last year of a commercial wheel track planter which permits farmers to practice minimum tillage or plow-plant technique. Benefits for conservation in this method are several. First, the number of field operations is reduced from an average of eight to three or four, thus gradually improving soil tilth. Second, this technique reduces water runoff and erosion, because the rough, loose soil left between the rows will absorb more moisture. In addition, yields are as high as or higher than those from conventional planting.

Another effective way that farm equipment manufacturers have supported conservation farming is through the Farm Equipment Institute. Headquartered in Chicago, the Institute is an association of several hundred farm equipment manufacturers and others associated with the industry—all dedicated to the advancement of agriculture and its prosperity.

The Soil and Water Conservation Committee of FEI has been the coordinating group which originates and develops both studies and action programs concerned with conservation. In these activities, FEI has cooperated with leading conservation agencies and associations to advance this common objective.

Working with the National Association of Soil and Water Conservation Districts, FEI has originated several conservation programs:

FEI-NASWCD newsletter contest: Dozens of soil conservation districts had been publishing newsletters for their members, telling their important story in a highly effective way. By making substantial awards to districts publishing the best newsletters, FEI believed it could encourage other districts to start publishing them and the existing ones to improve. Today, hundreds of districts submit their publications in the contest, which results in prizes for them in the form of a cash award and a plaque.

Movie: Another successful program culminated in the color sound film, "The Earth Is the Lord's." More than a thousand prints are now in circulation, with millions viewing the movie each year.

Press room for NASWCD convention: Each year, FEI has supplied a press room, manned by press officers from member companies, at the NASWCD convention. Together they provide news stories and articles for the major media—press, radio, and TV.

In addition, cooperating with the farm equipment dealers, local soil conservation districts, local and regional associations, and the National Retail Farm Equipment Association, FEI has conducted campaigns related to conservation. For example, the dealer-district program had as its primary objective to encourage all farm equipment dealers to work actively with their soil and water conservation districts.

This program was carried on for about 5 years. It was successful in getting the dealers to under-

Giant tractors on south Texas plains in one operation knock down brush with dozer blades, work the earth with root plows, and plant grass seed to restore the land to the cattle-producing rangeland it once was.

stand the districts' soil and water conservation program, and also contributed to getting more conservation on the land, particularly through wider use of machinery better adapted to applying conservation earthmoving and tillage measures.

During 1962, member companies of FEI, in cooperation with the Soil Conservation Service, also have held five educational seminars throughout the country for SCS engineers in charge of the small watershed program. Plans are now under way for another, similar program, sponsored jointly by FEI, SCS, and the Land Improvement Contractors Association for their members.

In these and a host of other ways the farm equipment industry has tried to communicate the message of conservation: "Wise management of land and water." These highlights illustrate the industry's abiding conviction that "rich and abundant though America's land may be, our natural resources must not be carelessly used, but we must replace what is taken away in the cycle of agricultural production."

Business Conservation Awards Symbolize Farm-City Teamwork

By Curtis Loucks, Carl H. Zimmerman, and Guy Moorefield

FORMAL recognition of community betterment resulting from soil and water conservation farming has become a conventional practice by urban business and professional groups throughout the country. Several Great Plains and adjacent Cornbelt States provide representative examples.

In North Dakota's Pierce County Soil Conservation District, to name one, the townspeople of the county seat, Rugby—now acclaimed as the geographical center of the North American continent—each November turn their attention to an event which in that district ranks alongside with Thanksgiving and Christmas.

After 12 years, it is known simply as "The Smoker." It is the backdrop for a community scene in which the Chamber of Commerce, implement dealers, the two banks, and the district supervisors play supporting parts. A conservation farmer has the featured role.

Culminating the annual Soil Conservation Achievement Competition, the smoker finds businessmen and farmers acknowledging each other's key contributions to the year's conservation progress. The implement dealers underwrite the cost of advertising and promoting the event, and the banks arrange for a plaque presented to the winner.

President Don Williams (l.) of Corning, Iowa, Rotary Club presents plaque to Chairman Ted Turner of Adams County SCD. David R. May (r.) is county Extension director and Rotary awards committee chairman.

The Chamber of Commerce and the district board share sponsorship and costs. Members of the Chamber serve the smorgasbord food. From 600 to 750 turn out for the "for-men-only" event, which includes entertainment and a speaker on an agricultural topic.

The farmer-winner and his wife also get an expense-paid trip to the annual convention of the North Dakota Association of Soil Conservation Districts, as do winners of similar competition in other North Dakota districts. Each receives an aerial color photo of his farm.

The conservation award program of the Corning, Iowa, Rotary Club is another typical example reflecting the way city people are concerned with farm problems such as soil and water conservation.

"The best project our club ever has undertaken," said Rotarian Floyd Whitmore, President of the Okey-Vernon National Bank of

Note:—The authors are, respectively, work unit conservationists, Ruby, N. Dak; Helena, Mont; and El Dorado, Kans., all of the Soil Conservation Service.

Corning, "is the one that recognizes farmers in Adams County for their accomplishments in soil and water conservation."

"The Rotary awards program creates an incentive for all farmers to become cooperators with the Adams County Soil Conservation District," explained Ted Turner, chairman of the district commissioners.

A farmer must be a district cooperator to be eligible. It all started back in 1954 when Fred McCard, manager of the Adams County Cooperative Electric and president of the Rotary Club, sold the other members on the idea. Seventy-eight farmers, representing every township in the county, have received awards.

Selections for the awards are made by a Rotary Club committee working with the district commissioners and Soil Conservation Service personnel. In a number of cases, the landlord-tenant relationships have been stressed with honors presented to both men.

Each honored farmer is presented a plaque by the club president, in an annual June program during Iowa Soil Conservation Week. Shown at the dinner are colored slides of each farm, taken by Rotarians Kenneth Roland, flying his own plane, and Glen Gillett as photographer.

Each year, the Des Moines Register and Tribune and Farm and Home Register sponsor a statewide Soil Conservation Achievement Award Program. In both 1960 and 1961, an Adams County Rotary Club winner was sweepstakes winner.

A major phase of the Butler County Soil Conservation District program in Kansas also has been aimed toward people not directly involved in agriculture. Foremost among the active urban supporters has been the Kansas Gas and Electric Company. Its officials recognize that the company's future depends upon progressive and prosperous communities. They

Cooperators of Butler County (Kans.) SCD recognized for having applied conservation plans to their farms and ranches.

are also aware that conservation of the soil is necessary in a predominantly agricultural community.

The company's conservation award banquet is an annual event in the district, at which district cooperators who have applied conservation plans on their land are recognized. Taking part are the district supervisors, gas company officials, press and radio, and others prominently identified with local soil and water conservation activities.

Highlight of the event is introduction of the winning cooperators and the presentation to each of a metal Kansas Gas and Electric soil and water conservation sign. The red-and-white signs are a symbol of the completion of an important objective, and within a few days are decorating farmstead entrances all over the district. Many landowners and operators, seeing them, visit the company office or the Butler County District-Soil Conservation Service office to find out how they, too, can get one.

Rugby (N. Dak.) "chow line": Businessmen serving farmer guests.

Watershed Project Saves Cedar City Dollars

By Leland H. Carlson

THE Green's Lake Watershed Project in Utah is paying off for Cedar City and its residents.

It is estimated that without the project, the flash flood of September 8, 1961, alone would have caused damages to roads, houses, and other buildings in excess of $8,300. As it was, the peak flood-flow of 600 cubic feet per second went through the debris basins and flood channel with no damage to Cedar City. Without the improved vegetative cover on the watershed, resulting from clearing, reseeding, and protection from grazing, there is no doubt that the peak-flow would have been of greater magnitude.

Studies and observations clearly show that all floods, such as the one of July 1956, which caused damages in excess of $56,000 to driveways, retaining walls, streets, basements, household furnishings, sewerlines, and farmlands at Cedar City, originated on bare, or denuded, lands.

Planners of the Green's Lake Watershed Project saw the need of improving the vegetative cover on the watershed area above Cedar City, so that the life of the structural works of improvement would not be jeopardized. These land-treatment measures were included in the watershed project work plan: Airplane seeding, 1,359 acres; clearing juniper and seeding, 308 acres; plowing and seeding sage-covered areas, 143 acres; protection from grazing for 5 years, 1,667 acres.

All of this work has been completed. Sponsors of the project are pleased with the results, though they are not as good as the sponsors would like, because of a series of 6 dry years since the project started.

In order that the silt, mud, and rock flow into the works of improvement be kept to a minimum, the vegetative cover on the watershed must be improved gradually in the years to come. Research indicates that this improvement will come about more rapidly by light or moderate grazing than by total exclusion of livestock.

Soon after the 1956 flood, Soil Conservation Service technicians working with the Iron County Soil Conservation District established permanent study plots over the entire watershed, to determine results of various measures in improving the vegetative cover.

They showed that the areas which were cleared of juniper and seeded to grass now have about a 60 percent cover of weeds, grasses, and forbs, compared to little or no ground cover where clearing of juniper was not performed.

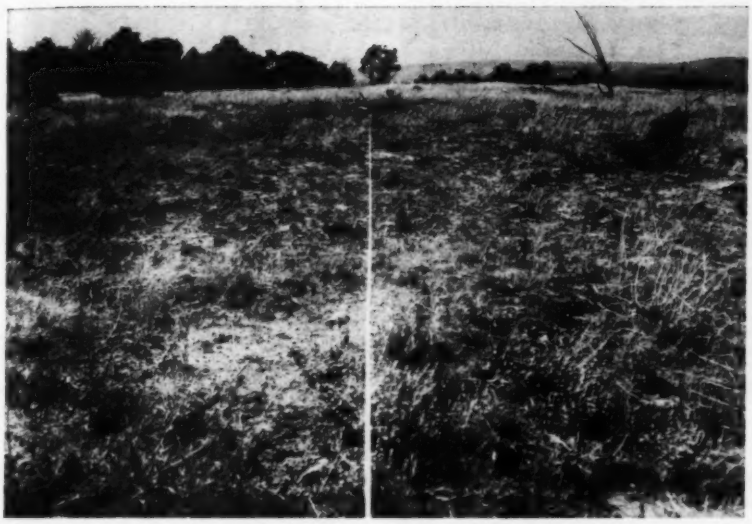
The sagebrush-covered areas which were plowed and seeded also have responded well, and now have a fairly good grass cover. The oak-covered areas have not responded to the airplane seeding, but the native forage plants are increasing in the opening and under the more open stands of oak. Leaves from the oak and forage plants virtually eliminated runoff. Areas covered by aspens now have a scattered stand of grass under them; but it is far from adequate, though the aspen reproduction is increasing.

A study of the watershed after the 1961 flood showed that all of the runoff, which went into the basins and dikes, came from the juniper cover areas and other spots devoid of a vegetative ground cover.

Bill Thorley, vice-chairman of the Iron County district, observed he has known Green's Lake water-

When this plot was picked at random and cleared of juniper in 1957 for crested wheatgrass seeding, the only vegetation, under trees, was native pensteman, which allowed most of the water to run off.

Note:—The author is work unit conservationist, Soil Conservation Service, Cedar City, Utah.



By 1961, wheatgrass and other plants covered more than 60 percent of the grounds, and there was no water runoff from September storms.

shed since he was a small boy, and that it now has a better vegetative cover on it than he can remember. He also said that, at first, he was skeptical of the possible results of the juniper clearing and seeding. He said he is now convinced that instead of clearing 308 acres of juniper, double that amount should have been cleared.

Builders, public officials, homeowners, farmers, and others are so confident of the results of the Green's Lake Watershed Project in reducing the flood hazard to Cedar City that houses, schools, and other improvements costing in excess of $2 million have been completed in Green's Lake flood plain. Other buildings costing more than $750,000 million are under construction.

Nonfarmers Size Up Soil and Water Conservation

By William H. Atkinson

REPRESENTATIVE observers among the 90 percent of the United States population who are not farmers share with the landowners and operators today's prevailing high opinion of soil and water conservation farming methods. At least this conclusion is to be drawn from the observations of three thinking, professional members of the nonfarm population.

Ernest Wynkoop, a construction engineer now in charge of the Atomic Energy Commission's Project Gnome at Carlsbad, N. Mex., tells of his conservation experiences.

"The soil and water conservation program has a following far beyond just those engaged in agriculture. In my 40 years of experience in construction work, I found it impossible not to see, read, and 'rub elbows' with the soil and water conservation movement. Several years ago, I decided to leave the construction work and buy a cattle ranch near Fort Huachuca, Ariz.:

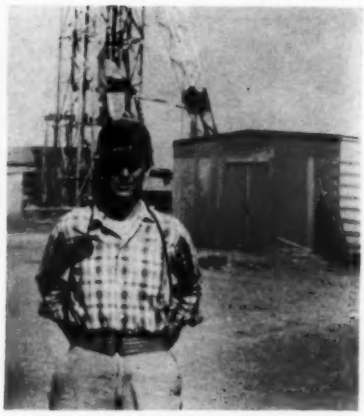
"As an engineer would turn to tables and books on strength of materials to build a bridge, I turned to the Soil Conservation Service people to build a ranch. Although I was not a cattleman by trade, my engineering experience showed me a similar need, or approach, to an overall plan on my ranch. Knowing that good technical conservation information was available, I went to the soil and water conservation technicians. With their assistance, I developed a conservation plan on my ranch. With this conservation plan and my financial plan, I presented them to the principal bank in Phoenix, and asked for their opinion. The bank's opinion was that the plans were economically sound for a continuous ranch operation. I operated the ranch for a time, but the call of engineering construction was too strong, and here I am.

"If I should ever return to the farm or ranch I will know—as I knew last time—to seek assistance from the soil and water conservation people. Their good work is like a city built on a hill so all may see, and, in my opinion, many do see. The work I am in now has a very appropriate title, 'Operation Plowshare.' The art piece on my desk is of Moses beating a sword into a plowshare with these

Note:—The author is work unit conservationist, Soil Conservation Service, Carlsbad, N. Mex.

Ernest Wynkoop.

William W. Loos.



James R. Johnson.

words, taken from Isaiah 2:4: '. . . and they shall beat their swords into ploughshares.' A fitting emblem for both programs."

Another personal conservation experience is related by William W. Loos, principal of Carlsbad's new $3 million high school:

"I am a part of the population not actually engaged in farming; but I have seen the soil and water conservation program since my youth, and I declare it 'good'. My father owns and operates a 1,000-acre farm near Sterling, Colo. I well remember the 'Dust Bowl' days in the thirties, and my father's applying conservation practices recommended by the Soil Conservation Service. I noticed that the soil on our farm did not blow and that the snow remained on our land and stayed white. Neighbors' snow was blown into drifts and then turned black with blowing topsoil.

"I soon left the farm and became a school teacher, but I never forgot my first observations in conservation. As I travel across this country of ours, or return to visit my parents, I can always tell where the landowners are practicing conservation. The country shows more progress, and life is more meaningful to the people. The towns are cleaner, more prosperous; school buildings are larger and better maintained; homes are nicer and barns larger and more sturdy. There are more children in schools; more graduates in universities, and neighbors more neighborly.

"This can be recognized, regardless of what business a person may be in. My father has been honored as Colorado's 'Wheat King' and 'Master Seedman.' The soil and water conservation program which helped my father was partly responsible for these two honors. You can't hide the good of the conservation program under a bushel basket, because it is too big, and the fruit is too tasty even to us nontillers of the soil."

The third spontaneous report is from James R. Johnson, mining engineer and project engineer with Holmes and Narver, Inc.:

"Our company is prepared to design, engineer, and construct facilities ranging from offshore drilling platforms to nuclear reactors. In the past, the mining industry had set a poor conservation example with stripping operations, leaving acres of scarred and eroded ground behind. Mining companies now operate in the more populous areas where land has higher values than just as mining property. It has other uses, such as recreation, and as timbered areas. The mining companies cooperate whole-heartedly with conservation groups and seek their assistance in reclaiming spoils areas.

"Several years ago, I was working at a rock quarry on an island off the coast of California. This island has rugged terrain and receives scant rainfall. Herds of goats and pigs roamed the island and were literally stripping the slopes of all vegetation. A watershed management program (one phase of conservation) was started under the direction of the island ranch manager, with the help of Soil Conservation Service technicians. Confinement of the goats and pigs by fencing, building of dams to control runoff, and seeding of native grasses on the bare slopes made a marked improvement during the 2½ years I was on the island.

"Now that I am living in Carlsbad, the importance of soil and water conservation is once again brought sharply into focus. It is an amazing sight to see the lush growth of irrigated areas surrounded by the open sand dune country. Certainly, good water usage and good range practices are of prime importance."

◆

The average American today eats a third more beef each year than his father did 35 years ago.

Tailor Made—

Clothing and Conservation

By Gordon J. Price

Roper's No. 1 well pumps 12-in. pipe full at 426 miner's inches, or 3,840 gallons a minute.

FARMING for Idaho clothing merchant William Roper was a rough "eye-opener" into the big business of agriculture.

Bill often has said that "when I traded the Jerome store building for the farm in Idaho, I really got over my head in something I knew little about." He also has stores in Rupert, Twin Falls, Buhl, and Boise.

While the East Cassia Soil Conservation District still was in the organizational stage in Cassia County, Roper sought help of the Soil Conservation Service technician in the nearby Minidoka SCD in preparing a complete farm plan for his 640-acre farm.

While attending the 1956 convention of the Idaho Association of Soil Conservation Districts, Roper met the writer, who recently had been assigned to the newly organized East Cassia district. The upshot was that a topographic map and a soil survey were made and a conservation irrigation system was planned for the Roper farm. A land-leveling program was carried out from 1957 through 1959.

Roper's system included drop structures installed in newly prepared ditch pads for positive control of irrigation water, and concrete division boxes installed at all dividing points to provide for permanent control of irrigation water. Roper had two deep wells that pumped 5,274 gallons of water a minute. A 1,340-foot pipeline and a 735-foot open concrete ditch were installed to carry water from the pumps down erodible slopes, along with two syphons to convey headwater under the large coulee and waste water under a head ditch and road.

Two ponds were built, in which waste water can be collected in overnight storage for further irrigation use.

Roper's hay and companion crop production increased in quality and quantity as each field was leveled, irrigation water controlled, and soil fertility improved. Roper now is able to plan and carry out his 7-year crop rotation: 1 year of grain with fall seeded grass-alfalfa, 3 years of hay production, and 3 years of annual crops.

He worked out a plan to grade and seed a large coulee to pasture, to give him 55 acres for grazing 100 head of cattle.

"That topographic map has a value of about $7,000 to me," Roper says. "It's like having blueprints for a home one would propose to build. Everything is laid out, showing the needs of each acre as well as for each separate field. When I install a practice now, it fits and doesn't need to be changed or done over."

An irrigation trial was set up in the summer of 1962 for the Idahome soils found on the Roper farm. It will supply needed irrigation information on those soils for use as technical guides in other areas of Idahome soils in the State.

Field being leveled on Roper farm.

Note:—The author is work unit conservationist, Soil Conservation Service, Burley, Idaho.

Conservation Drains Spell End To "Town's" Old-fashioned Digging Bees

By Edward G. Konieczny

OLD fashion digging bees have gone out of style but the spirit of modern community-wide drainage maintenance still prevails in one Massachusetts "town." Here, cooperative drainage work in 4 different projects has made life simpler for 40 formerly drowned out tobacco, onion, potato, and cucumber growers in Sunderland.

In addition to helping farmers, the group ditches have relieved such home problems as wet basements and plugged septic tanks.

The pioneer spirit first showed up in George Pomeroy, selectman and an onion producer who grew tired of being stuck with his farm tractor. With other selectmen of the town of Sunderland, he aroused the interest of the people to request help of the Franklin Soil Conservation District in solving the problem. Soil Conservation Service technicians working with the district attacked the problem with soil augers, survey instruments, and sharpened pencils. Voting the traditional town meeting way, the townspeople approved the ditch plans with financial help for one-half of the cost.

Selectmen Edward Steffin, George Pomeroy, and Edward Mieczkowski (l. to r.) of Sunderland, Mass., study a group-drainage ditch design prepared with the help of SCS technicians.

This wet, soggy land was of no value for crops, fish, or livestock use.

This cropland after conservation drainage improvement is producing nourishing vegetable food crops.

"It sure beat the old hand digging days," said John Benjamin, local contractor who was awarded one of the dragline digging jobs.

The "old days" he mentioned were the community hand digging bees when all the farmers that owned land along the ditch would get together each year to dig out their drains. Because the land is flat, they often dug 2 to 3 miles to outlet the water.

"The first drain worked so well that we had to set priorities—dig-

Note:—The author is soil conservationist, Soil Conservation Service, Greenfield, Mass.

ging a little each year," Pomeroy recalled.

During the last 8 years, town voters have approved more than 5 miles of drainage ditches.

Today, while farmers in other towns up and down the Connecticut Valley slush around in boots, those in Sunderland operate serenely on firm and dry fields. Instead of holding the old fashioned digging bees, the landowners and their children are content to fish in lagoons and streams alongside the drains in the same waters that once mired horses and tractors. Removal of excess water on 100 acres of land has brought higher quality tobacco, potatoes, cucumbers, and other vegetables.

Edward and Walter Storozuk, dairy farmers, said their 40 milk cows eat more grass and produce creamier milk.

"I haven't used my cellar sump pump once since the ditch was put in," stated Steve Kroll, one of the town's homeowners who have benefited from the drainage ditches. "The ground water has been lowered, so I also don't need to clean out my septic tank as often."

The town also has made provisions to keep the drains functioning, by hiring a dragline to clean out the silt every 5 or 6 years.

D. C. Metropolitan Small-Watershed Project

Maryland's Montgomery County Council, the Montgomery Soil Conservation District and the Maryland-National Capital Park and Planning Commission are sponsors of a proposed Upper Rock Creek Watershed Project to benefit the District of Columbia and adjacent Maryland metropolitan area.

Drafting a plan for the project climaxed 7 years' effort by private and public agencies and organizations interested in rural-urban planning, soil and water conservation, and recreation. It is the first metropolitan area Watershed Protection and Flood Prevention Act work plan providing for a cooperative undertaking between the Department of Agriculture, urban and rural groups, and a park and planning commission.

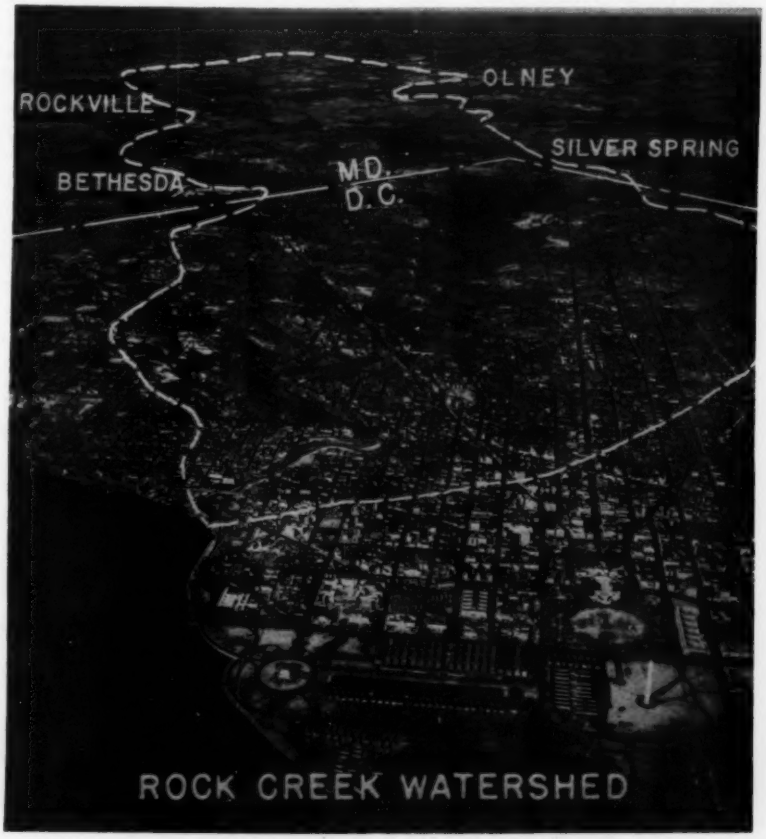
Estimated total cost of the project, scheduled to be completed over a 5-year period, is $2,128,386—$1,208,196 Federal share and $920,190 local share.

The project would alleviate frequent flooding of park facilities, damage to flood-plain utilities, and erosion and sediment damages accelerated by subdivision developments. The land treatment and dams would reduce floodwater damages by 62 percent and reduce the sediment load transported to the Potomac River in the District of Columbia by 51 percent.

Because most of the watershed (38,765 acres or 78 percent) is in Montgomery County, no works of improvement, such as soil and water conservation treatment and two multipurpose dams, are planned within the District.

The Soil Conservation Service, which administers the Watershed Act for the U. S. Department of Agriculture, would provide technical help for land treatment and the Federal share of the cost of construction and installation services.

Rock Creek rises in the low hills of Montgomery County about 20 miles north of Washington. The midsection is largely covered by suburban residential areas, many of them developed during the last decade. The lower portion embraces a substantial residential section of the District of Columbia.



AGRICULTURE AND BUSINESS

The American farmer stands today at a major crossroads, and you (businessmen)—believe me—stand there with him. . . .

We have a way of talking about "farm" interest and "city" interests as if the two communities were a million light years apart. When the businessman thinks of the farm, it is apt to be in terms of an irritating and expensive situation that concerns an insignificant 8 percent of the population, somewhere "out there." This is an illusion I wish we could dispel.

It is easy to underestimate the farm population. There are fewer than 15 million people living on farms today—about 8 percent of the country's population—or about the same as the population of the New York metropolitan area. Would anyone suggest that the New York area is not vitally important to the national economy? The influence of this metropolis is felt from one end of the country to the other and around the globe.

In the same way, the importance of agriculture to the economy is far greater than the farm population alone would indicate. Remember that farmers and their families are only one part of the agricultural population. There are another 40 million people who make up our rural population, and a large number of them are the small town families who service and supply the farm communities.

Ten million people have jobs storing, transporting, processing, and merchandising the products of agriculture. Six million people have jobs providing the supplies farmers use. Add them all up—the farmers, the small town shopkeepers and bankers, the truckers, processors, wholesalers, and retailers—and the "agricultural" population is far closer to *40* than to *8* percent of the Nation. . . .

The investment in agriculture was over 200 *billion* dollars in 1961. That's about *three-fourths* of the value of current assets for *all* corporations in the country. It is *three-fifths* of the market value of all corporation stocks on the New York Stock Exchange. That is big business indeed.

The investment in agriculture represents $21,300 for each farmworker. In manufacturing it is less than $16,000 for each worker. Farmers sent more than $20 billion worth of food to the domestic market in 1961. By the time we paid for it, it was worth another $40 billion—twice again as much. About half of that money was wages for the men and women who process, store, ship, and finally sell our food to us in the store. This marketing bill was income to the trucking and rail companies that hauled the food. It was profits for the companies handling farm foods. And they in turn, bought containers and fuel, paid rents, interests, and taxes, until the dollars that started on the farm had been multiplied over and over throughout the economy.

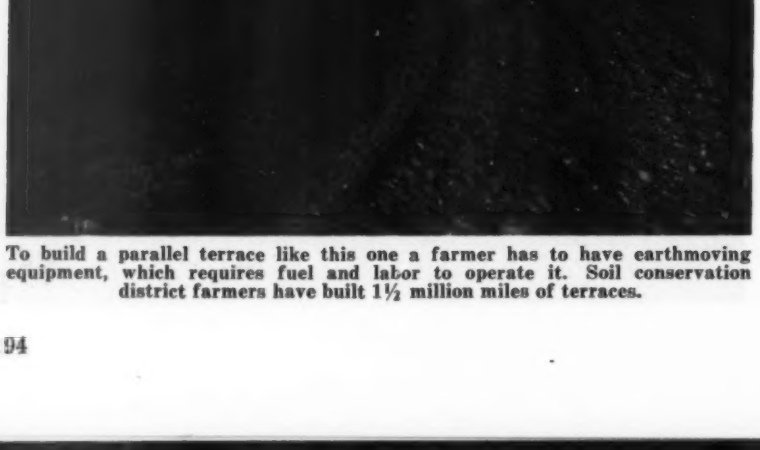
Selling to the farmer is measured in billions of dollars. . . . Last year, for instance, the farmer grossed nearly $40 billion—$35 billion from his crops and livestock. He paid nearly $27 billion for everything he needed to run his business.

The farmer puts out about $2.5 billion a year for the purchase of trucks and tractors and other machines and equipment. About $1 billion is spent by the primary iron and steel industry for equipment *and* new plants. He spends $3.4 billion for fuel, lubricants, and maintenance for his equipment. Farming uses more petroleum than any other single industry. And to keep his farm going, the farmer uses 27 billion kilowatts of electricity—enough to run Baltimore, Chicago, Boston, Detroit, Houston, and Washington, D. C., for a year.

And while you think about the farmer, don't overlook his wife. She's spending money, too—about $12.7 billion of realized net income last year.

It would be hard to find a more important customer and business partner than the farm family.

—Excerpts from address by Secretary of Agriculture Orville L. Freeman before the Sales Executive Club of New York, March 27, 1962.



To build a parallel terrace like this one a farmer has to have earthmoving equipment, which requires fuel and labor to operate it. Soil conservation district farmers have built 1½ million miles of terraces.

Michigan City and Farm Interests Join Hands In Watershed—Recreation—Wildlife Developments

By Ralph W. Lowery

SOUTH central Michigan farm and city interests have gone all out in promoting better community living through conservation developments. And they're getting results!

For one thing, the Calhoun Soil Conservation District during the past 2 years has shouldered leadership in many significant conservation activities carried out by Battle Creek and neighboring city dwellers and farm people in developing wildlife improvement projects, resource needs, soil surveys for planning commissions, new highway programing, youth recreational and education field days, and day camp nature studies —all on a small-watershed basis.

Thus the Battle Creek Kiwanis Club has bought 120 acres of idle land on Achley Creek in the Kalamazoo Valley watershed, in order to improve it for waterfowl and upland game. The Michigan Audubon Society, which owns 561 adjoining acres, joined hands with the Kiwanis Club in building a retention dam storing water on 250 acres of once-farmed marshland, with flood storage available on 300 additional acres. Grasses and legumes, shrubs, and food plots have been planted for cover and food for upland game and for waterfowl nesting habitat. All together, there is a 3,500-acre watershed area, in which 50 percent of the land has a conservation plan.

These two organizations have dedicated their holdings for the education of city and farm youth in conservation of natural resources and recreation uses. They are cooperating with the Calhoun district, and have received technical help from the Soil Conservation Service and from the Game Division of the Michigan Department of Conservation.

The interest of city and farm people here cover one-half of the land area of the Calhoun County, with four-fifths of its population involved.

In May 1962, the Extension Service specialist sponsored a field day for the Marshall, Battle Creek, and Bellview 5th graders, during which 350 youngsters studied wildlife water, food, and cover developments. Day-camp nature classes were held in June, July, and August for 8- to 12-year-olds of Marshall and Battle Creek. The Michigan Audubon Society provided instructors. The Nottawa Trail Boy Scout Council held its jamboree in September, with 800 scouts camping and learning about wildlife and watershed improvement projects. These young people will continue to use and to be trained at the watershed project by city people going to the farm.

Out of this undertaking was born the idea of forming the Kalamazoo Valley Resource Council, Inc., to study and take inventory of the natural resource needs of the valley. This is a nonprofit organization, to bring together interested people of industry, city, farm, institutions, and others to study total soil and water, wildlife, and recreation needs and potentials of the valley, which consists of half a million acres, of which 143,000 lies in Calhoun County. The main purpose of the Council is to motivate the interest of the people, and to promote attention to and action on the total soil and water needs of the watershed for the people.

Another important development came when the Athens Village asked the farm people along Pine Creek, a branch of the Nottawa River, to cooperate in studying the opportunities for improving 1,000 acres of marsh for recreation and wildlife developments. This

250-acre march development in Kiwanis-Audubon area.

Note:—The author is work unit conservationist, Soil Conservation Service, Marshall, Mich.

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group has asked the Calhoun district to cosponsor a watershed project of the Nottawa River.

The district invited the technical review committee of the Michigan State Soil Conservation Committee to review this watershed for Public Law 566 approval; the committee approved and now the people are pushing for a Public Law 566 application. The upper Nottawa has drainage and erosion problems, and a need for coordinating river and county drain outlets with new Highway I-69 to be built in 1965. The Nottawa River includes 94,000 acres in Calhoun County.

Because of the interest shown by the Battle Creek Kiwanis Club, the Audubon Society of Michigan, the Athens community planning group, the Battle Creek Planning Commission, and the Marshall and Albion planning commissions, the boards of supervisors of 10 townships in these two watersheds asked for complete soil conservation surveys. Surveys in nine townships have been completed and are in the hands of township boards, planning commissions, boards of health, and others concerned. The soil survey maps are important guides for future land-use changes, septic tank field and highway locations, and new suburban developments.

Meanwhile, the Extension Service is leading out with education programs on land-use analyses, population trends, zoning needs, and planning commission organization. Soils information is being superimposed on the present land-use studies; and facts developed in the recently completed National Soil and Water Conservation Needs Inventory are being incorporated in the overall planning program.

Studying plan for Kiwanis and Audubon area (l. to r.): R. D. Van Dusen, biologist and member of both organizations; Kenneth Krum, chairman Kiwanis Agricultural Committee; Martin C. Urka, SCS; Burr Ambre of Kiwanis Club; and N. D. Ismond of Michigan Department of Conservation.

The Kalamazoo Valley is expected to have 2 million more people by 1980 or 2000. Today's inventories of soil and water, industrial, wildlife, and recreation needs are aimed at having recreation areas set aside, water resources developed and kept free from contamination, parks located, wildlife habitat improved, and well-water kept pure.

New Metropolitan Planning Course

Increasing metropolitan pressures on the land and other facilities in the national capital area led the Northern Virginia Center School of General Studies to offer a new course this fall on "Introduction To Community Planning."

The Arlington County school, an extension of the University of Virginia, explained in introducing the course:

"Our exploding metropolis poses a challenge to effective planning which must be met if our community of tomorrow is to attain the inherent promise of the future. In cooperation with the Washington Center for Metropolitan Studies, and with planning agencies and civic groups in northern Virginia, we are pleased to introduce this survey course. It is intended primarily for the interested citizen or the civic leader who wants a better understanding of the principles of planning, the role of citizens, groups, and public agencies in the planning process."

Offered for undergraduate credit, the course—with emphasis on northern Virginia in relationship to the Washington metropolis—is taught by Miss Mary Small of the Washington, D. C., National Capital Planning Commission staff.